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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,122	08/25/2003	Laura Kramer	200310701-1	3205

22879 7590 09/12/2005

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EXAMINER	
KASENGE, CHARLES R	
ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,122	KRAMER ET AL.	
	Examiner	Art Unit	
	Charles R. Kasenge	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36 and 50-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *30-36 and 58* is/are allowed.

6)☒ Claim(s) *1-29,50-52,54,55,57 and 59-64* is/are rejected.

7)☒ Claim(s) *53 and 56* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-24, 50-52, 54, 55, 57, 59-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Pang et al. U.S. Patent 6,100,007. Referring to claims 1, 2, 3, 24, 59 and 62, Pang discloses a method for creating a three-dimensional solid freeform fabrication object with non-reactive powder (col. 1, lines 7-13) comprising: spreading a non-reactive powder on a substrate (col. 18, lines 36-56); heating said reactive resin to a temperature of about 40 to 200 degrees Celsius (col. 20, lines 44-49); selectively dispensing a reactive resin onto said non-reactive powder, forming a mixture of reactive resin and non-reactive powder (col. 19, lines 33-36), wherein said mixture defines said three-dimensional object (col. 20, lines 13-28); applying ultrasonic energy to said mixture of reactive resin and non-reactive powder (col. 20 and 21, lines 63-67 and 1-7) and curing said reactive resin thereby encapsulating said non-reactive powder (col. 20, lines 29-33).

Referring to claims 4-8, 50-52, 54, 55, 57, 60, 61, 63, and 64, Pang discloses the method

of claim 1, further comprising adding color to said reactive resin (col. 18, lines 4-8). Pang discloses the method of claim 1, wherein said reactive resin comprises a one-part reactive resin (col. 10, lines 50-57). Pang discloses the method of claim 5, wherein said one-part reactive resin comprises an ultraviolet (UV) curable resin (col. 10, lines 50-57). Pang discloses the method of claim 6, wherein said curing comprises applying UV radiation to said reactive resin (col. 19, lines 43-46). Pang discloses the method of claim 7, wherein said dispensing comprises selectively depositing a quantity of said one part reactive resin onto said non-reactive powder (col. 18, lines 36-56).

Referring to claims 9-15, Pang discloses the method of claim 1, wherein said reactive resin comprises a two-part reactive resin including a reactive build material and a curing agent (col. 4 and 5, lines 61-67 and 1-45). Pang discloses the method of claim 9, wherein said dispensing comprises: dispensing a layer of said reactive build material; and dispensing a layer of said curing agent (col. 20, lines 13-28). Pang discloses the method of claim 9, wherein said dispensing comprises simultaneously dispensing said reactive build material and said curing agent (col. 20, lines 13-28). Pang discloses the method of claim 9, wherein: said reactive build material comprises an epoxy; and said curing agent comprises a material from one of an amino group, a hydroxyl group, or a carboxyl group (col. 20, lines 13-28). Pang discloses the method of claim 9, wherein: said reactive build material comprises a polyisocyanate; and said curing agent comprises a polyol (col. 4 and 5, lines 61-67 and 1-45). Pang discloses the method of claim 9, wherein: said reactive build material comprises a functionalized silicone; and said curing agent is configured to react with a functional group on said silicone (col. 18, lines 36-56). Pang discloses the method of claim 9, wherein: said reactive build material comprises prepolymers with

unsaturated functionality; and said curing agent comprises a free-radical cure curing agent (col. 10, lines 10-36 and 58-63).

Referring to claims 16-23, Pang discloses the method of claim 1, wherein said reactive resin comprises a two-part UV curable resin including a UV initiator and a build material (col. 3, lines 33-48). Pang discloses the method of claim 16, wherein said selectively dispensing comprises: dispensing a layer of build material on said non-reactive powder; and dispensing a layer of said UV initiator (col. 20, lines 13-28). Pang discloses the method of claim 16, wherein said selectively dispensing comprises simultaneously dispensing said build material and said UV initiator (col. 20, lines 13-28). Pang discloses the method of claim 16, wherein said UV initiator is dissolved in a solvent (col. 10, lines 37-63). Pang discloses the method of claim 19, wherein said solvent comprises a monofunctional monomer (col. 10, lines 37-63). Pang discloses the method of claim 16, wherein said build material comprises one of an acrylic compound, a compound having an epoxy substituent, a vinyl ether substituent, vinylcaprolactam, vinylpyrrolidone, or urethanes (col. 3, lines 33-48). Pang discloses the method of claim 16, wherein said UV initiator comprises one of a free radical initiator or a cationic initiator (col. 10, 37-63). Pang discloses the method of claim 1, wherein said non-reactive powder comprises one of silica particles, glass spheres, metal powders, polymer powders, ceramic powders, or magnetic powders (col. 18, lines 33-42).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 25-29 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. as applied to the claims above, and further in view of Almquist et al. U.S. Patent 5,902,537. Although Pang does not expressly disclose the use of a mechanical roller and an inkjet dispenser, Pang does disclose the use of a printing machine (col. 20, lines 7-12) and implicitly teaches spreading the powder on a substrate (col. 18, lines 36-56). Almquist expressly discloses using an inkjet and roller for a rapid prototyping or solid freeform fabrication system (abstract).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use an inkjet and roller for a solid freeform fabrication system. One of ordinary skill in the art would have been motivated to do this since Almquist discloses an inkjet and roller to be commonly used for dispensing resin (col. 5, lines 5-8) and spreading powder (col. 3, lines 51-67) respectively.

Allowable Subject Matter

6. Claims 30-36 and 58 are allowed.

7. Claims 53 and 56 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

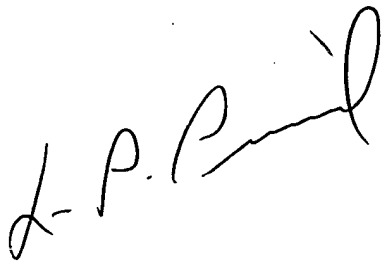
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CK
September 5, 2005



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